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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/973,910

10/11/2001

Tsai Chu-Chia

ACR0051-US

7467

28970

7590

04/16/2003

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EXAMINER

EDWARDS, ANTHONY Q

ART UNIT

PAPER NUMBER

2835

DATE MAILED: 04/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/973,910

Applicant(s)

CHU-CHIA, TSAI

Examiner

Anthony Q. Edwards

Art Unit

2835

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-16 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: *See Continuation Sheet*.

Continuation of Attachment(s) 6). Other: Marked-up copy of Figure 1 of U.S. Patent No. 5,397,189

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,397,189 to Minogue. Referring to amended claim 1, Minogue discloses an ergonomic keyboard comprising, a base (10) and a plurality of keys, located evenly on the base about a center line of the base and further arranged to form a plurality of parallel arc key rows having a same concentric center lying at the center line.

Referring to claim 2, FIGS. 1, 2, 9 and 10 of Minogue show an ergonomic keyboard, wherein the keys are arranged on the base in accordance with a "QWERTY" standard keyboard arrangement.

Referring to claim 3, FIGS. 1, 2, 9 and 10 of Minogue show an ergonomic keyboard, wherein the concentric center is located at a side opposing to a user of said keyboard.

Referring to claim 4, FIGS. 1, 2, 9 and 10 of Minogue show an ergonomic keyboard, wherein the arc key rows are equal-spaced arranged (*sic*).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minogue in view of U.S. Patent No. 6,212,066 to Fetterman. Referring to claims 5 and 6, Minogue discloses an ergonomic keyboard as claimed, except for a base further including a plurality of non-standard function keys located at an upper edge thereof to macro a plurality of serial typing operations. Fetterman discloses a portable computer with removable keyboard having a plurality of non-standard function keys (306), which are used to reduce the number of keystrokes during typing operation, located at an upper edge of the keyboard. See FIG. 3A and the corresponding specification. It would have been obvious to one of ordinary skill in the art at the time the invention was made modify the ergonomic keyboard of Minogue to include function key at the upper edge, as taught by Fetterman, to provide ready access to the function for reducing typing strokes.

Referring to claim 7, Minogue discloses an ergonomic keyboard as claimed, except for the keyboard including a pair of fasteners for fixing said keyboard to a computer unit. Fetterman discloses a portable computer with removable keyboard having a pair of fasteners, i.e., latches (302) for fixing the keyboard to a computer unit (200). See FIGS. 2 and 3A and column 6, lines 14-17.

Claims 8-16 are rejected under 35 U.S.C. 103(a) s being unpatentable over Fetterman in view of Minogue. Referring to amended claim 8, Fetterman discloses a portable or notebook computer (100), comprising a host or base unit (102) for storage and for processing digital data, a display unit (118) for displaying the digital data, and an ergonomic keyboard (106), fixed on the

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host unit having a plurality of keys (210). See FIGS. 1 and 2 and the corresponding specification.

Fetterman does not disclose the plurality of keys located evenly on the base about a center line of the base and further arranged to form a plurality of parallel arc key rows having a same concentric center lying at the center line. As mentioned above, Minogue discloses the claimed arcuate keyboard. It would have been obvious to one of ordinary skill in the art at the time the invention was made modify the notebook computer of Fetterman to include an arcuate keyboard, as taught by Minogue, to provide a removable keyboard in a portable computer that reduces the stress on a user to help eliminate the risk of Repetitive Stress Injury (RSI).

Referring to claim 9, Fetterman in view of Minogue discloses a notebook computer having the keys further arranged on said base in accordance with a "QWERTY" standard keyboard arrangement.

Referring to claim 10, Fetterman in view of Minogue discloses a notebook computer, wherein the concentric center is located at a side opposing to a user of said keyboard.

Referring to claim 11, Fetterman in view of Minogue discloses a notebook computer, wherein the said arc key rows are equal-spaced arranged.

Referring to claim 12, Fetterman in view of Minogue discloses a notebook computer, wherein the arc key rows include letter keys and numeral keys. Fetterman in view of Minogue does not expressly disclose that each of the letter keys and the numeral keys has a size 0.85-0.98 times of a key of a keyboard for a desktop computer. However, Examiner takes Official Notice that reducing the size of the keys on the keyboard of a portable computer is conventional and well known. It would have been obvious to one of ordinary skill in the art at the time the

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invention was made to reduce the size of the letter keys and numeral on the keyboard of Fetterman in view of Minogue since the Examiner takes Official Notice that doing so in portable computers is conventional and well known.

Referring to claim 13, Fetterman in view of Minogue discloses a notebook computer, wherein the arc key rows include standard function keys. Fetterman in view of Minogue does not expressly disclose that each of the standard function keys has a size 0.6-0.8 times of a key of a keyboard for a desktop computer. However, Examiner takes Official Notice that reducing the size of the keys on the keyboard of a portable computer is conventional and well known. It would have been obvious to one of ordinary skill in the art at the time the invention was made to reduce the size of the function keys on the keyboard of Fetterman in view of Minogue since the Examiner takes Official Notice that doing so in portable computers is conventional and well known.

Referring to claims 14 and 15, Fetterman in view of Minogue discloses a notebook computer, wherein the base further includes a plurality of non-standard function keys located at an upper edge thereof, which are used to macro a plurality of serial typing operations for reducing the typing of said keys.

Referring to claim 16, Fetterman in view of Minogue discloses a notebook computer, wherein the ergonomic keyboard further includes a pair of fasteners for fixing said keyboard to said computer unit.

### ***Response to Arguments***

Applicant's arguments filed April 1, 2003 have been fully considered but they are not persuasive. Regarding claim 1, while it is true that Minogue teaches "the rows farther from the



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user edge 12 are placed at increasing heights above the rows closer to user (*sic*)," Minogue also discloses the claimed invention, as stated in the above rejection, by clearly showing keys (11) arranged to form a plurality of parallel arc key rows having a same concentric center lying at the center line. See the marked-up copy of FIG. 1.

Regarding claim 8, as stated in the above rejection, Fetterman, in view of Minogue, discloses the claimed removable arcuate keyboard for a notebook computer, including installing an ergonomic keyboard on a portable computer, wherein QWERTY keys are arranged on several arc key rows having the same concentric center.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Q. Edwards whose telephone number is 703-605-4214. The examiner can normally be reached on M-F (7:30-3:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (703) 308-4815. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 306-5511 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-9929.

aqe  
April 10, 2003

  
**DARREN SCHUBERG**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2800**